A. Declaux

P#32

1644

RAW SEQUENCE LISTING DATE: 05/17/2001
PATENT APPLICATION: US/08/728,463B TIME: 10:08:31

Input Set : A:\-90-2.app
Output Set: N:\CRF3\05172001\H728463B.raw

SEQUENCE LISTING

(1) GENERAL INFORMATION:

(i) APPLICANT: Lonberg, Nils
Kay, Robert M.

(ii) TITLE OF INVENTION: Transgenic Non-Human Animals for Producing Heterologous Antibodies

(iii) NUMBER OF SEQUENCES: 409

(iv) CORRESPONDENCE ADDRESS:
(A) ADDRESSEE: Townsend and Townsend and Crew LLP
(B) STREET: Two Embarcadero Center, Eighth Floor
(C) CITY: San Francisco
(D) STATE: California
(E) COUNTRY: USA
(F) ZIP: 94111-3834

(v) COMPUTER READABLE FORM:
(A) MEDIUM TYPE: Floppy disk
(B) COMPUTER: IBM PC compatible
(C) OPERATING SYSTEM: PC-DOS/MS-DOS
(D) SOFTWARE: PatentIn Release #1.0, Version #1.30

(vi) CURRENT APPLICATION DATA:
C--> **(A) APPLICATION NUMBER: US/08/728,463B**
C--> **(B) FILING DATE: 10-Oct-1996**
(C) CLASSIFICATION:

(vii) PRIOR APPLICATION DATA:
(A) APPLICATION NUMBER: US 08/544,404
(B) FILING DATE: 10-OCT-1995
(A) APPLICATION NUMBER: US 08/352,322
(B) FILING DATE: 07-DEC-1994
(A) APPLICATION NUMBER: US 08/209,741
(B) FILING DATE: 09-MAR-1994
(A) APPLICATION NUMBER: US 08/165,699
(B) FILING DATE: 10-DEC-1993
(A) APPLICATION NUMBER: US 08/161,739
(B) FILING DATE: 03-DEC-1993
(A) APPLICATION NUMBER: US 08/155,301
(B) FILING DATE: 18-NOV-1993
(A) APPLICATION NUMBER: US 08/096,762
(B) FILING DATE: 22-JUL-1993
(A) APPLICATION NUMBER: US 08/053,131
(B) FILING DATE: 26-APR-1993
(A) APPLICATION NUMBER: US 07/990,860
(B) FILING DATE: 16-DEC-1992
(A) APPLICATION NUMBER: US 07/904,068
(B) FILING DATE: 23-JUN-1992
(A) APPLICATION NUMBER: US 07/853,408
(B) FILING DATE: 18-MAR-1992
(A) APPLICATION NUMBER: US 07/810,279

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PATENT APPLICATION: **US/08/728,463B** TIME: 10:08:31

Input Set : **A:\-90-2.app**
Output Set: **N:\CRF3\05172001\H728463B.raw**

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     79          (B) FILING DATE: 17-DEC-1991
     82          (A) APPLICATION NUMBER: US 07/575,962
     83          (B) FILING DATE: 31-AUG-1990
     86          (A) APPLICATION NUMBER: US 07/574,748
     87          (B) FILING DATE: 29-AUG-1990
     90          (A) APPLICATION NUMBER: WO PCT/US91/06185
     91          (B) FILING DATE: 29-AUG-1991
     93   (viii) ATTORNEY/AGENT INFORMATION:
     94          (A) NAME: Serafini, Andrew T.
     95          (B) REGISTRATION NUMBER: 41,303
     96          (C) REFERENCE/DOCKET NUMBER: 014643-009020US
     98     (ix) TELECOMMUNICATION INFORMATION:
     99          (A) TELEPHONE: (415) 576-0200
     100         (B) TELEFAX: (415) 576-0300
     103 (2) INFORMATION FOR SEQ ID NO: 1:
     105      (i) SEQUENCE CHARACTERISTICS:
     106         (A) LENGTH: 10 base pairs
     107         (B) TYPE: nucleic acid
     108         (C) STRANDEDNESS: single
     109         (D) TOPOLOGY: linear
W--> 111     (ii) MOLECULE TYPE: DNA
     114     (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 1:
     116 CTAADTGGGG                                                    10
     119 (2) INFORMATION FOR SEQ ID NO: 2:
     121      (i) SEQUENCE CHARACTERISTICS:
     122         (A) LENGTH: 5 amino acids
     123         (B) TYPE: amino acid
     124         (C) STRANDEDNESS:
     125         (D) TOPOLOGY: linear
     127     (ii) MOLECULE TYPE: peptide
     130     (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 2:
     132      Asp Ala Phe Asp Ile
     133      1               5
     136 (2) INFORMATION FOR SEQ ID NO: 3:
     138      (i) SEQUENCE CHARACTERISTICS:
     139         (A) LENGTH: 5 amino acids
     140         (B) TYPE: amino acid
     141         (C) STRANDEDNESS:
     142         (D) TOPOLOGY: linear
     144     (ii) MOLECULE TYPE: peptide
     147     (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 3:
     149      Asp Tyr Phe Asp Tyr
     150      1               5
     153 (2) INFORMATION FOR SEQ ID NO: 4:
     155      (i) SEQUENCE CHARACTERISTICS:
     156         (A) LENGTH: 5 amino acids
     157         (B) TYPE: amino acid
     158         (C) STRANDEDNESS:
     159         (D) TOPOLOGY: linear
```

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Input Set : A:\-90-2.app
Output Set: N:\CRF3\05172001\H728463B.raw

```
     (ii) MOLECULE TYPE: peptide
     (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 4:
      Gly Ala Phe Asp Ile
      1               5
(2) INFORMATION FOR SEQ ID NO: 5:
      (i) SEQUENCE CHARACTERISTICS:
           (A) LENGTH: 4 amino acids
           (B) TYPE: amino acid
           (C) STRANDEDNESS:
           (D) TOPOLOGY: linear
     (ii) MOLECULE TYPE: peptide
     (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 5:
      Lys Glu Arg Val
      1
(2) INFORMATION FOR SEQ ID NO: 6:
      (i) SEQUENCE CHARACTERISTICS:
           (A) LENGTH: 4 amino acids
           (B) TYPE: amino acid
           (C) STRANDEDNESS:
           (D) TOPOLOGY: linear
     (ii) MOLECULE TYPE: peptide
     (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 6:
      Asn Asp Ser Val
      1
(2) INFORMATION FOR SEQ ID NO: 7:
      (i) SEQUENCE CHARACTERISTICS:
           (A) LENGTH: 12 base pairs
           (B) TYPE: nucleic acid
           (C) STRANDEDNESS: single
           (D) TOPOLOGY: linear
W--> (ii) MOLECULE TYPE: RNA
     (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 7:
AAAGAAAGAG UU                                                    12
(2) INFORMATION FOR SEQ ID NO: 8:
      (i) SEQUENCE CHARACTERISTICS:
           (A) LENGTH: 12 base pairs
           (B) TYPE: nucleic acid
           (C) STRANDEDNESS: single
           (D) TOPOLOGY: linear
W--> (ii) MOLECULE TYPE: RNA
     (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 8:
AACGACAGCG UU                                                    12
(2) INFORMATION FOR SEQ ID NO: 9:
      (i) SEQUENCE CHARACTERISTICS:
           (A) LENGTH: 15 base pairs
           (B) TYPE: nucleic acid
           (C) STRANDEDNESS: single
           (D) TOPOLOGY: linear
W--> (ii) MOLECULE TYPE: DNA
```

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Input Set : A:\-90-2.app
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```
    247     (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 9:
    249 GAGCTGAGCT GGGGT                                                  15
    252 (2) INFORMATION FOR SEQ ID NO: 10:
    254      (i) SEQUENCE CHARACTERISTICS:
    255           (A) LENGTH: 20 base pairs
    256           (B) TYPE: nucleic acid
    257           (C) STRANDEDNESS: single
    258           (D) TOPOLOGY: linear
W--> 260     (ii) MOLECULE TYPE: DNA
    263     (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 10:
    265 GAGCTGAGCT GAGCTGGGGT                                             20
    268 (2) INFORMATION FOR SEQ ID NO: 11:
    270      (i) SEQUENCE CHARACTERISTICS:
    271           (A) LENGTH: 25 base pairs
    272           (B) TYPE: nucleic acid
    273           (C) STRANDEDNESS: single
    274           (D) TOPOLOGY: linear
W--> 276     (ii) MOLECULE TYPE: DNA
    279     (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 11:
    281 GAGCTGAGCT GAGCTGAGCT GGGGT                                        25
    284 (2) INFORMATION FOR SEQ ID NO: 12:
    286      (i) SEQUENCE CHARACTERISTICS:
    287           (A) LENGTH: 30 base pairs
    288           (B) TYPE: nucleic acid
    289           (C) STRANDEDNESS: single
    290           (D) TOPOLOGY: linear
W--> 292     (ii) MOLECULE TYPE: DNA
    295     (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 12:
    297 GAGCTGAGCT GAGCTGAGCT GAGCTGGGGT                                   30
    300 (2) INFORMATION FOR SEQ ID NO: 13:
    302      (i) SEQUENCE CHARACTERISTICS:
    303           (A) LENGTH: 35 base pairs
    304           (B) TYPE: nucleic acid
    305           (C) STRANDEDNESS: single
    306           (D) TOPOLOGY: linear
W--> 308     (ii) MOLECULE TYPE: DNA
    311     (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 13:
    313 GAGCTGAGCT GAGCTGAGCT GAGCTGAGCT GGGGT                             35
    316 (2) INFORMATION FOR SEQ ID NO: 14:
    318      (i) SEQUENCE CHARACTERISTICS:
    319           (A) LENGTH: 40 base pairs
    320           (B) TYPE: nucleic acid
    321           (C) STRANDEDNESS: single
    322           (D) TOPOLOGY: linear
W--> 324     (ii) MOLECULE TYPE: DNA
    327     (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 14:
    329 GAGCTGAGCT GAGCTGAGCT GAGCTGAGCT GAGCTGGGGT                        40
    332 (2) INFORMATION FOR SEQ ID NO: 15:
    334      (i) SEQUENCE CHARACTERISTICS:
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Input Set : A:\-90-2.app
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```
     335           (A) LENGTH: 45 base pairs
     336           (B) TYPE: nucleic acid
     337           (C) STRANDEDNESS: single
     338           (D) TOPOLOGY: linear
W--> 340      (ii) MOLECULE TYPE: DNA
     343      (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 15:
     345 GAGCTGAGCT GAGCTGAGCT GAGCTGAGCT GAGCTGAGCT GGGGT                    45
     348 (2) INFORMATION FOR SEQ ID NO: 16:
     350       (i) SEQUENCE CHARACTERISTICS:
     351           (A) LENGTH: 50 base pairs
     352           (B) TYPE: nucleic acid
     353           (C) STRANDEDNESS: single
     354           (D) TOPOLOGY: linear
W--> 356      (ii) MOLECULE TYPE: DNA
     359      (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 16:
     361 GAGCTGAGCT GAGCTGAGCT GAGCTGAGCT GAGCTGAGCT GAGCTGGGGT              50
     364 (2) INFORMATION FOR SEQ ID NO: 17:
     366       (i) SEQUENCE CHARACTERISTICS:
     367           (A) LENGTH: 55 base pairs
     368           (B) TYPE: nucleic acid
     369           (C) STRANDEDNESS: single
     370           (D) TOPOLOGY: linear
W--> 372      (ii) MOLECULE TYPE: DNA
     375      (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 17:
     377 GAGCTGAGCT GAGCTGAGCT GAGCTGAGCT GAGCTGAGCT GAGCTGAGCT GGGGT        55
     380 (2) INFORMATION FOR SEQ ID NO: 18:
     382       (i) SEQUENCE CHARACTERISTICS:
     383           (A) LENGTH: 60 base pairs
     384           (B) TYPE: nucleic acid
     385           (C) STRANDEDNESS: single
     386           (D) TOPOLOGY: linear
W--> 388      (ii) MOLECULE TYPE: DNA
     391      (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 18:
     393 GAGCTGAGCT GAGCTGAGCT GAGCTGAGCT GAGCTGAGCT GAGCTGAGCT GAGCTGGGGT    60
     396 (2) INFORMATION FOR SEQ ID NO: 19:
     398       (i) SEQUENCE CHARACTERISTICS:
     399           (A) LENGTH: 65 base pairs
     400           (B) TYPE: nucleic acid
     401           (C) STRANDEDNESS: single
     402           (D) TOPOLOGY: linear
W--> 404      (ii) MOLECULE TYPE: DNA
     407      (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 19:
     409 GAGCTGAGCT GAGCTGAGCT GAGCTGAGCT GAGCTGAGCT GAGCTGAGCT GAGCTGAGCT    60
     411 GGGGT                                                              65
     414 (2) INFORMATION FOR SEQ ID NO: 20:
     416       (i) SEQUENCE CHARACTERISTICS:
     417           (A) LENGTH: 70 base pairs
     418           (B) TYPE: nucleic acid
     419           (C) STRANDEDNESS: single
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VERIFICATION SUMMARY DATE: 05/17/2001
PATENT APPLICATION: US/08/728,463B TIME: 10:08:32

Input Set : A:\-90-2.app
Output Set: N:\CRF3\05172001\H728463B.raw

L:29 M:220 C: Keyword misspelled or invalid format, [(A) APPLICATION NUMBER:]
L:30 M:220 C: Keyword misspelled or invalid format, [(B) FILING DATE:]
L:111 M:246 W: Invalid value of Alpha Sequence Header Field, [MOLECULE TYPE:], SeqNo=1
L:212 M:246 W: Invalid value of Alpha Sequence Header Field, [MOLECULE TYPE:], SeqNo=7
L:228 M:246 W: Invalid value of Alpha Sequence Header Field, [MOLECULE TYPE:], SeqNo=8
L:244 M:246 W: Invalid value of Alpha Sequence Header Field, [MOLECULE TYPE:], SeqNo=9
L:260 M:246 W: Invalid value of Alpha Sequence Header Field, [MOLECULE TYPE:], SeqNo=10
L:276 M:246 W: Invalid value of Alpha Sequence Header Field, [MOLECULE TYPE:], SeqNo=11
L:292 M:246 W: Invalid value of Alpha Sequence Header Field, [MOLECULE TYPE:], SeqNo=12
L:308 M:246 W: Invalid value of Alpha Sequence Header Field, [MOLECULE TYPE:], SeqNo=13
L:324 M:246 W: Invalid value of Alpha Sequence Header Field, [MOLECULE TYPE:], SeqNo=14
L:340 M:246 W: Invalid value of Alpha Sequence Header Field, [MOLECULE TYPE:], SeqNo=15
L:356 M:246 W: Invalid value of Alpha Sequence Header Field, [MOLECULE TYPE:], SeqNo=16
L:372 M:246 W: Invalid value of Alpha Sequence Header Field, [MOLECULE TYPE:], SeqNo=17
L:388 M:246 W: Invalid value of Alpha Sequence Header Field, [MOLECULE TYPE:], SeqNo=18
L:404 M:246 W: Invalid value of Alpha Sequence Header Field, [MOLECULE TYPE:], SeqNo=19
L:422 M:246 W: Invalid value of Alpha Sequence Header Field, [MOLECULE TYPE:], SeqNo=20
L:440 M:246 W: Invalid value of Alpha Sequence Header Field, [MOLECULE TYPE:], SeqNo=21
L:458 M:246 W: Invalid value of Alpha Sequence Header Field, [MOLECULE TYPE:], SeqNo=22
L:476 M:246 W: Invalid value of Alpha Sequence Header Field, [MOLECULE TYPE:], SeqNo=23
L:494 M:246 W: Invalid value of Alpha Sequence Header Field, [MOLECULE TYPE:], SeqNo=24
L:512 M:246 W: Invalid value of Alpha Sequence Header Field, [MOLECULE TYPE:], SeqNo=25
L:528 M:246 W: Invalid value of Alpha Sequence Header Field, [MOLECULE TYPE:], SeqNo=26
L:544 M:246 W: Invalid value of Alpha Sequence Header Field, [MOLECULE TYPE:], SeqNo=27
L:560 M:246 W: Invalid value of Alpha Sequence Header Field, [MOLECULE TYPE:], SeqNo=28
L:576 M:246 W: Invalid value of Alpha Sequence Header Field, [MOLECULE TYPE:], SeqNo=29
L:592 M:246 W: Invalid value of Alpha Sequence Header Field, [MOLECULE TYPE:], SeqNo=30
L:608 M:246 W: Invalid value of Alpha Sequence Header Field, [MOLECULE TYPE:], SeqNo=31
L:624 M:246 W: Invalid value of Alpha Sequence Header Field, [MOLECULE TYPE:], SeqNo=32
L:640 M:246 W: Invalid value of Alpha Sequence Header Field, [MOLECULE TYPE:], SeqNo=33
L:656 M:246 W: Invalid value of Alpha Sequence Header Field, [MOLECULE TYPE:], SeqNo=34
L:672 M:246 W: Invalid value of Alpha Sequence Header Field, [MOLECULE TYPE:], SeqNo=35
L:688 M:246 W: Invalid value of Alpha Sequence Header Field, [MOLECULE TYPE:], SeqNo=36
L:704 M:246 W: Invalid value of Alpha Sequence Header Field, [MOLECULE TYPE:], SeqNo=37
L:720 M:246 W: Invalid value of Alpha Sequence Header Field, [MOLECULE TYPE:], SeqNo=38
L:736 M:246 W: Invalid value of Alpha Sequence Header Field, [MOLECULE TYPE:], SeqNo=39
L:752 M:246 W: Invalid value of Alpha Sequence Header Field, [MOLECULE TYPE:], SeqNo=40
L:768 M:246 W: Invalid value of Alpha Sequence Header Field, [MOLECULE TYPE:], SeqNo=41
L:784 M:246 W: Invalid value of Alpha Sequence Header Field, [MOLECULE TYPE:], SeqNo=42
L:800 M:246 W: Invalid value of Alpha Sequence Header Field, [MOLECULE TYPE:], SeqNo=43
L:816 M:246 W: Invalid value of Alpha Sequence Header Field, [MOLECULE TYPE:], SeqNo=44
L:832 M:246 W: Invalid value of Alpha Sequence Header Field, [MOLECULE TYPE:], SeqNo=45
L:848 M:246 W: Invalid value of Alpha Sequence Header Field, [MOLECULE TYPE:], SeqNo=46
L:864 M:246 W: Invalid value of Alpha Sequence Header Field, [MOLECULE TYPE:], SeqNo=47
L:880 M:246 W: Invalid value of Alpha Sequence Header Field, [MOLECULE TYPE:], SeqNo=48
L:896 M:246 W: Invalid value of Alpha Sequence Header Field, [MOLECULE TYPE:], SeqNo=49
L:912 M:246 W: Invalid value of Alpha Sequence Header Field, [MOLECULE TYPE:], SeqNo=50
L:928 M:246 W: Invalid value of Alpha Sequence Header Field, [MOLECULE TYPE:], SeqNo=51

VERIFICATION SUMMARY DATE: 05/17/2001
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Input Set : **A:\-90-2.app**
Output Set: **N:\CRF3\05172001\H728463B.raw**

L:944 M:246 W: Invalid value of Alpha Sequence Header Field, [MOLECULE TYPE:], SeqNo=52
L:960 M:246 W: Invalid value of Alpha Sequence Header Field, [MOLECULE TYPE:], SeqNo=53
L:976 M:246 W: Invalid value of Alpha Sequence Header Field, [MOLECULE TYPE:], SeqNo=54
L:992 M:246 W: Invalid value of Alpha Sequence Header Field, [MOLECULE TYPE:], SeqNo=55
L:2727 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:140
L:2787 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:143
L:6243 M:361 W: Invalid Split Codon, Sequence data for SEQ ID#: 298

Application No.: 08/728,463

NOTICE TO COMPLY WITH REQUIREMENTS FOR PATENT APPLICATIONS CONTAINING NUCLEOTIDE SEQUENCE AND/OR AMINO ACID SEQUENCE DISCLOSURES

The nucleotide and/or amino acid sequence disclosure contained in this application does not comply with the requirements for such a disclosure as set forth in 37 C.F.R. 1.821 - 1.825 for the following reason(s):

☐ 1. This application clearly fails to comply with the requirements of 37 C.F.R. 1.821-1.825. Applicant's attention is directed to these regulations, published at 1114 OG 29, May 15, 1990 and at 55 FR 18230, May 1, 1990.

☐ 2. This application does not contain, as a separate part of the disclosure on paper copy, a "Sequence Listing" as required by 37 C.F.R. 1.821(c).

☐ 3. A copy of the "Sequence Listing" in computer readable form has not been submitted as required by 37 C.F.R. 1.821(e).

☐ 4. A copy of the "Sequence Listing" in computer readable form has been submitted. However, the content of the computer readable form does not comply with the requirements of 37 C.F.R. 1.822 and/or 1.823, as indicated on the attached copy of the marked -up "Raw Sequence Listing."

☐ 5. The computer readable form that has been filed with this application has been found to be damaged and/or unreadable as indicated on the attached CRF Diskette Problem Report. A Substitute computer readable form must be submitted as required by 37 C.F.R. 1.825(d).

☐ 6. The paper copy of the "Sequence Listing" is not the same as the computer readable from of the "Sequence Listing" as required by 37 C.F.R. 1.821(e).

☒ 7. Other: page 38 of the instant specification, lines 16, 17 and 18 contain 4 sequences which are not identified by a SEQ ID tag. Furthermore, on page 163 of the instant specification, lines 24 and 25 contain 2 sequences which are not identified by a SEQ ID tag. Furthermore on page 254-256, SEQ ID NO:s 1-10 do not agree with SEQ ID NO:s 1-10 of the CRF and paper copy submitted with the CRF.

Applicant Must Provide:

☒ An initial or substitute computer readable form (CRF) copy of the "Sequence Listing".

☒ An initial or substitute paper copy of the "Sequence Listing", as well as an amendment directing its entry into the specification.

☒ A statement that the content of the paper and computer readable copies are the same and, where applicable, include no new matter, as required by 37 C.F.R. 1.821(e) or 1.821(f) or 1.821(g) or 1.825(b) or 1.825(d).

For questions regarding compliance to these requirements, please contact:

For Rules Interpretation, call (703) 308-4216
For CRF Submission Help, call (703) 308-4212
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